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10/587,192

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Hans-Wilhelm Klein

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EXAMINER

RIGGLEMAN, JASON PAUL

ART UNIT

PAPER NUMBER

1711

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | | |
|------------------------------|------------------------|--|---------------------|--|
| Office Action Summary | Application No. | | Applicant(s) | |
| | 10/587,192 | | KLEIN, HANS-WILHELM | |
| | Examiner | | Art Unit | |
| | JASON P. RIGGLEMAN | | 1711 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date. _____ | 6) <input checked="" type="checkbox"/> Other: <u>Foreign reference</u> |

DETAILED ACTION

Status of Claims

1. Applicant's reply filed on 2/25/2010 is acknowledged. Current pending claims are 13-24. Claims 13 and 18-19 are amended. Claims 1-12 are cancelled.

Response to Arguments

2. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection (necessitated by amendment). The drawing objections are withdrawn in view of the applicant's arguments. The previous 112, second paragraph, rejections of claims 15 and 20 are maintained. The applicant has pointed to paragraph [0026] of the specification; however, Examiner contends that this fails to explain a "time behavior of an electromotive force". Further, Examiner does not understand the limitations of claim 15 – which "specific characteristics" are being controlled?

Specification

3. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.

- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Rejections - 35 USC § 112

- 4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
- 5. Claims 15 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "time behavior of an electromotive force" is not understood. Claim 15 is not understood.
- 6. Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "said monitoring device configured for respectively selecting a characteristic allocated to a current position of said directional valve" is not understood. Which characteristic is being selected?

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 13-14, 17-18, 22, and 24 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Haverkramp (German Patent Publication No. DE3803006) in view of Kon et al. (JP Patent Publication No. JP410252680A) in view of Struthers (US Patent No. 6481973).

10. Haverkramp teaches a dishwashing machine having a chamber which is at least partially filled with liquid. A pump is driven by a motor (4) and draws fluid out of the chamber, Fig. 5. A monitoring device detects a speed and power of the motor (see abstract). The speed/power of the motor is detected in order to minimize cavitation and utilize the least amount of water needed. A uniform measuring value is determined for the parameters hence they are not deviating significantly from the predefined values. An inlet valve selectively admits liquid into the chamber and a control device "signals" (controls) if an exceptional state is detected, Paragraph [0003] of English Machine translation. Haverkramp teaches that a pump that isn't pump air has

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stable power (without fluctuations), paragraph [0006]. There is a means (sensor) for detecting voltage of the motor. There is a filter before an inlet to the pump.

11. Haverkramp does not teach the power comparison; however, Kon et al. teaches an operation control for a pump in which the respective rotational speeds of the pump are provided in a table (read-only memory) to correspond with a maximum output of the motor (theoretical power value). A computing element of the control device (6a) calculates the shaft power of the pump (actual power value) on the basis of the rotational speed and pump head. The controller compares the preset (theoretical power value), in the look up table, at the speed to the calculated (actual power value). If the actual power < theoretical power then speed is increased and if actual power > theoretical power then speed is reduced with the goal of making actual power = theoretical power. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Haverkramp with Kon et al. to produce a method to optimize the speed to achieve the expected result of having the pump run efficiently. Note: the combination of Haverkramp, as modified by Kon et al, does not teach that the power is calculated from a current intensity delivered simultaneously by a current measuring circuit; however, it has been held that an obvious choice in design (absent any showing of criticality) is not patentable (*In re Kuhle* 188 USPQ 7). The Examiner maintains that Haverkramp, as modified by Kon et al, teaches actual power measurement and both are equivalent techniques to achieve the same result. Also, the use of valves is known -- it is unclear as to what weight the applicant wants to be given to the term "bi-directional valve" however, for purposes of Examination this is assumed to be a valve which is capable of opening and closing.

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12. Haverkramp, as modified by Kon et al., does not teach that when the theoretical power value and actual power value differ by more than a permissible amount that a fault indication is given; however, Struthers teaches that various fault states may occur in the pump one of which is "dry running of the pump can be identified by a power consumption too low for the pump speed" (Column 6, Lines 55-65). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Haverkramp, as modified by Kon et al. with Struthers with a method to prevent the pump from dry running by indicating a fault. In regards to claim 14, Haverkramp teaches that "only after itself the pump has completely filled is a state without power fluctuations and therefore a stable operating attitude adjusts itself"; therefore, it would be obvious to add water through an inlet valve to stop pump starvation (dry-running). In regards to claims 17-18, it would be obvious to shut the pump down if the power is too high for the speed since this indicates a jam or other malfunction.

13. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haverkramp (German Patent Publication No. DE3803006) in view of Kon et al. (JP Patent Publication No. JP410252680A) in view of Struthers (US Patent No. 6481973) as applied to claim 13, above, in view of Omozawa et al. (JP Patent Publication No. 2001-339980).

14. Haverkramp, as modified by Kon et al. with Struthers does not teach that the machine has an inverter for supplying the power to the motor and that the inverter and one of the monitoring device or control device are combined into a component unit; however, Omozawa teaches a control circuit for a dishwasher. The control circuit precludes noise by mounting an inverter and control circuit onto a single substrate (into a component unit). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Haverkramp, as modified by

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Kon et al., as modified by Struthers with Omozawa to create a single component inverter and control circuit unit which precludes the generation of noise to achieve the expected result.

15. Claims 15-16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haverkramp (German Patent Publication No. DE3803006) in view of Kon et al. (JP Patent Publication No. JP410252680A) in view of Struthers (US Patent No. 6481973), as applied to claim 13, above.

16. Haverkramp, as modified by Kon et al., as modified by Struthers does not teach that a plurality of circulating paths and that the monitoring device utilizes different values for the power/voltage during use of the circulating paths; however, it has been held that an obvious choice in design absent any showing of criticality is not patentable (*In re Kuhle* 188 USPQ). Dishwashing machines commonly have several circulation paths depending of the step in the cleaning of tableware. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Haverkramp, as modified by Kon et al., as modified by Struthers to maximize the efficiency of washing machine in every step/stage of cleaning the tableware.

17. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haverkramp (German Patent Publication No. DE3803006) in view of Kon et al. (JP Patent Publication No. JP410252680A) in view of Struthers (US Patent No. 6481973) as applied to claim 13, above, in view of Smith et al. (US Patent No. 3542496).

18. Haverkramp, as modified by Kon et al., as modified by Struthers does not teach that the motor has an armature disposed in a pump chamber of the pump; however, Smith et al. teaches a conventional vane-type pump having an armature disposed in a pump chamber of the pump. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify

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Haverkramp, as modified by Kon et al., as modified by Struthers with Smith et al. to create a dishwashing machine with a conventional vane pump to achieve the expected result.

19. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haverkramp (German Patent Publication No. DE3803006) in view of Kon et al. (JP Patent Publication No. JP410252680A) in view of Struthers (US Patent No. 6481973) as applied to claim 13, above, in view of Bourgeois et al. (US Patent No. 5859520).

20. Haverkramp, as modified by Kon et al., as modified by Struthers does not teach synchronous motor speed detection; however, Bourgeois et al. teaches a determining a rotational speed of a synchronous motor from a time behavior of an electromotive force in the windings a motor. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Haverkramp, as modified by Kon et al., as modified by Struthers with Bourgeois et to create a dishwashing machine with a conventional speed measuring means to achieve the expected result.

21. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haverkramp (German Patent Publication No. DE3803006) in view of Kon et al. (JP Patent Publication No. JP410252680A) in view of Struthers (US Patent No. 6481973) as applied to claim 13, above.

22. Haverkramp, as modified by Kon et al., as modified by Struthers does not teach flushing a the inlet filter when an exceptional state of the pump motor is detected; however, it has been held that an obvious choice in design absent any showing of criticality is not patentable (*In re Kuhle* 188 USPQ). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Haverkramp, as modified by Kon et al., as modified by Struthers to clean

to filter to decrease cavitation (air sucking) and decrease pump damage to achieve the expected result.

Conclusion

23. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON P. RIGGLEMAN whose telephone number is (571)272-5935. The examiner can normally be reached on M-F, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on 571-272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael Barr/
Supervisory Patent Examiner, Art Unit 1711

Jason P Riggleman
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